REMARKS

Reconsideration of this application is respectfully requested in view of the following remarks.

Claims 1 and 3-11 are currently pending. No changes have been made to claims 1 and 3-11. Therefore, claims 1 and 3-11 remain pending, of which claims 1 and 7-10 are independent claims.

In the Office Action, the Examiner sustained his former position that claims 1 and 3-11 were rejected under 35 U.S.C. §102(a) and §102(e) as allegedly being anticipated by or, in the alternative, under 35 U.S.C. §103(a) as allegedly being obvious over U.S. Patent No. 6,719,875 to Ohmi et al. ("Ohmi"). Furthermore, claim 7 was rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No, 6,232,236 to Shan et al. ("Shan") in view of WO 98/39500 to Ohmi et al. ("Ohmi'500") and further in view of Ohmi or its corresponding foreign patent application JP2000-40695.

Applicants respectfully traverse the prior art rejections for the following reasons.

Independent claim 1 recites, *inter-alia*, "the front surface of said auxiliary electrode is covered by an insulating material, and the back surface of said auxiliary electrode is not covered by the insulating material." Such feature is also recited in independent claims 7-10.

Applicants respectfully submit that Ohmi '875 fails to teach or suggest the above-mentioned feature. Indeed, Ohmi discloses that the surface of the auxiliary electrode is covered by an insulating material, but there is no description in Ohmi where the insulating material is applied to, nor the description about the front surface and the back surface of the auxiliary electrode. Indeed, Ohmi focuses on the arrangement of the auxiliary electrode but not the material used to form the auxiliary electrode. On the contrary, the present invention is based on the discovery that the insulating film provided on only the front surface can achieve an uniform self-bias with a smaller RF output while using electron drift in plasma.

In the specification of the invention, the front surface and the back surface of the auxiliary electrode 104 are referred as different reference numbers 106 and 105 to show that the front surface 106 and the back surface 105 of the auxiliary electrode 104 have distinguishable features in the technical aspect. Fig. 8 of the present invention clearly shows that insulator 902 is provided on the front surface of the auxiliary electrode 104, and the corresponding paragraph of the specification, such as page 15, lines 3-12, describes that the insulator 902 is formed on the surface 106 (that is the front side) of auxiliary electrode 104.

Differently from the present invention, Ohmi does not at all discuss the front surface and back surface of the auxiliary electrode 107. Indeed, as described in col. 7, lines 46-53, Ohmi merely describes that "such a material having an insulating film formed on its surface may be used." However, there is no description in Ohmi about how the insulating film is to be formed on the surface of the auxiliary electrode 107, nor disclosure in Ohmi that "the front surface of said auxiliary electrode is covered by an insulating material, and the back surface of said auxiliary electrode is not covered by the insulating material," as recited in claim 1 and similarly recited in claims 7-10. It is, therefore, respectfully submitted that the rejections under 35 U.S.C. 102(a) and 102(e) have no basis and should be moot. Furthermore, as Ohmi merely vaguely describes that "such a material having an insulating film formed on its surface may be used," it would not have been obvious for one skilled in the art to revise Ohmi to achieve the claimed invention.

Furthermore, even if Ohmi implied that the insulating film is provided on a part of the surface of the auxiliary film, which is not true indeed, one skilled in that art cannot determine which part of the auxiliary film to be provided with the insulating film. The insulation film may be provided to only an inner part or an outer part, or provided to one half of the auxiliary electrode. In either case, it would not have been obvious for one skilled in the art to easily revise Ohmi to achieve the claimed invention.

Accordingly, Applicants respectfully submit that the rejections of claims 1 and 3-11 under 35 U.S.C. §102(a) and §102(e) and §103(a) should be withdrawn. The claimed subject matter of claims 1 and 3-11 are considered being patentable over Ohmi.

To emphasize the advantages of applying the insulating film on the front surface of the auxiliary electrode but not the back surface thereof, Applicants lists the effects by using the claimed auxiliary electrode at least as follows.

(1) An RF power to equalize the self bias potential can be reduced. Such effect has been explained with reference to Fig. 9 in the specification of the present invention. The graph of Fig. 9 is obtained by using the auxiliary electrode illustrated in Fig. 8, which has the insulator 902 only on the front surface 106 of the auxiliary electrode 104. Ohmi, on the other hand, fails to teach or suggest such advantage.

(2) The uniformity of the etching rate can be minimized within ±2%. Such effect has been described in the specification at, for example, page 15, lines 23-35. The uniformity is calculated by using the auxiliary electrode illustrated by Fig. 8, which has the insulator 902

only on the front surface of the auxiliary electrode. Ohmi also fails to teach or suggest such advantage.

(3) A high RF electric power efficiency is acquired by covering the surface of the auxiliary electrode by an insulating material as mentioned in the specification at, for example, page 21, lines 8-11. Again, Ohmi fails to teach or suggest such advantage.

With regards to the rejection of claim 7 under 35 U.S.C. §103(a) as allegedly being unpatentable over Shan in view of Ohmi'500 and further in view of Ohmi, Applicants respectfully traverse the rejection based on the following reasons.

To establish a prima facie case of obviousness, according to MPEP, Section 2143, three basic criteria must be met. First, there must be some suggest or combination, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. "All words in a claim must be considered in judging the patentability of that claim against the prior art." In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

Shan et al. merely discloses that the radio frequency signals of the first power source 240 and the second power source 242 may have different frequencies (see col. 5, lines 34-36 in Shan et al.). Shan et al. does not disclose, teach or suggest the radio frequency signals of the first power source and the second power source have different phases. The fact that the first power source and the second power of Shan et al. may have different frequencies would not suggest to those skilled in the art that the first power source and the second power source have different phases.

As admitted by the Examiner, Shan fails to teach or suggest a plasma processing method including applying a static magnetic field and both Shan and Ohmi'500 fails to teach or suggest an auxiliary electrode having a front surface covered by the insulating material and a back surface not covered by the insulating material, as recited in claim 7. To make the obviousness rejection, the Examiner cited Ohmi and asserted that Ohmi disclosed the "insulating film" feature recited in claim 7.

As described above, Ohmi merely describes that "such a material having an insulating film formed on its surface may be used." However, there is no description in Ohmi about how the insulating film is to be formed on the surface of the auxiliary electrode 107, nor disclosure in Ohmi that "the auxiliary electrode having a front surface covered with an

insulating material and a back surface not covered by the insulating material, and a second power source operably connected to the auxiliary electrode," as recited in claim 7.

Accordingly, none of Shan, Ohmi'500, and Ohmi, when taken singly or in combination thereof, teaches or suggests every claimed limitation of claim 7. Therefore, it would not have been obvious for one skilled in the art to combine these reference to achieve the claimed invention of claim 7. Thus, Applicants respectfully submit that the rejection of claim 7 under 35 U.S.C. §103(a) should be withdrawn and claim 7 is deemed patentable over the cited references.

CONCLUSION

In view of the foregoing, the claims are now in form for allowance, and such action is hereby solicited. If any point remains in issue which the Examiner feels may be best resolved through a personal or telephone interview, he is kindly requested to contact the undersigned at the telephone number listed below.

All objections and rejections having been addressed, it is respectfully submitted that the present application is in a condition for allowance and a Notice to that effect is earnestly solicited.

Please charge any fees associated with the submission of this paper to Deposit Account Number 033975. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,

PILLSBURY WINTHROP
SHAW PITTMAN LLP

Wan-Ching Y. Montfort
Reg. No. 56127
Tel. No. (703) 770-7577
Fax No. 703-770-7901

Date: March 1, 2007
P.O. Box 10500
McLean, VA 22102
(703) 770-7900